

walls of the chassis frame may be filled with modules. Also, the grooves 210 are spaced apart a distance selected such that as modules are slideably inserted into the frame, adjacent modules are positioned with a small spacing between oppos-  
ing sidewalls of adjacent modules. The locking fasteners 29  
are provided through the projecting end portions 14a, 14b of  
the front faces 14 of the module 10 for receipt in corre-  
sponding threaded locking holes 216 provided on walls 202,  
204 of chassis frame 12.

Transformer 100 is shown separate from amplifier module 10. Transformer 100 is vertically mounted to a vertical side piece 220 of chassis frame 12. Chassis frame extension 220a (not illustrated in FIG. 2) could also be a mounting location for transformer 100.

From time to time, a customer or purchaser of the module 10 may desire to hold the modules and other radio frequency modules in a horizontal alignment rather than the vertical alignment of FIGS. 1 and 2. An alternative chassis frame 12' is shown in FIGS. 9-12 for holding the modules 10 in a horizontal alignment. Two pairs of walls 202', 204' are provided, and each wall has the flange receiving grooves 210'.

Instead of transformer 100 being a wall mounted unit separate from module 10, the transformer can also be internal to its own module 10' also separate from amplifier module 10 which is received by one of the chassis frames 12, 12'. FIGS. 9-12 illustrate transformer module 10' having an internal transformer disposed within housing 13'. Power supply port 240 links an external power source (i.e., 120 volts a.c., 48 volts d.c.) over wires 242 to transformer module 10'. The internal transformer outputs the proper voltage through port 240 over wires 244 to the power supply port 90 of amplifier module 10. Power on indicator 260 provides visual output whether transformer module 10' is supplied with external power. Also, transformer module 10' can be two or more modules 10 in width between walls 18' and 20', as desired, to provide more internal space for components.

Having described the present invention in a preferred embodiment, modifications and equivalents may occur to one skilled in the art. It is intended that such modifications and equivalents shall be included within the scope of the claims which are appended hereto.

What is claimed is:

1. A chassis frame and module combination comprising:

a) an amplifier module having:

- 1) a housing of electrically conductive material defining an enclosed interior; said housing having a front face and an opposite rear face separated by opposite sidewalls and opposite end walls, with each of said faces and sidewalls being of predetermined dimension and with said sidewalls being parallel to one another; each of said end walls having a projecting flange extending in a common plane generally parallel to said sidewalls and with said common plane offset from a central longitudinal axis of said housing; said front face including end portions extending beyond each of said end walls;
- 2) two coax connectors secured to said rear face with an outer shield of said coax connectors electrically coupled to said housing;
- 3) a circuit board contained within said interior and positioned generally parallel to and spaced between said sidewalls; said circuit board having a component side opposing a first of said sidewalls and a ground side opposing a second of said sidewalls, said

ground side including a layer of electrically conductive material electrically connected to said housing; a plurality of connection locations on said circuit board, each of said connection locations including a ground connection for connecting ground shields of coax cables to said layer of electrically conductive material; said component side of said circuit board including a circuit component interconnected with said connection locations through a circuit path; said circuit component including an amplifier circuit selected to amplify a radio frequency signal supplied to one of said coax connectors and to provide an amplified radio frequency signal to the other of said coax connectors; said coax connectors connected to said connection locations, each of said outer shields of said coax connectors connected to said ground connections of said connection locations;

- 4) A power supply port located on said rear face; said power supply port interconnected to said amplifier circuit through a circuit path of said circuit board;
- b) a chassis frame including a pair of spaced apart walls, said walls spaced apart by a distance substantially equal to a distance between said end walls of said module; each of said walls including a groove, each groove sized to slideably receive one of said projecting flanges;
- c) a lock member for locking at least one of said end portions to said chassis frame;
- d) a transformer separate from said amplifier module, said transformer mounted to said chassis frame, said transformer electrically coupled to said power supply port of said amplifier module for powering said amplifier circuit.

2. The chassis frame and module of claim 1, further comprising a first test coax connector secured to said front face; said first test coax connector electrically coupled to a circuit path of said circuit board to monitor the radio frequency signal supplied to said amplifier circuit.

3. The chassis frame and module of claim 2, further comprising a second test coax connector secured to said front face; said second test coax connector electrically coupled to a circuit path of said circuit board to monitor the radio frequency signal from said amplifier circuit.

4. The chassis frame and module of claim 1, further comprising a test coax connector secured to said front face; said test coax connector electrically coupled to a circuit path of said circuit board to monitor the radio frequency signal from said amplifier circuit.

5. The chassis frame and module of claim 1, wherein said circuit component of said amplifier module further includes a tilt circuit.

6. The chassis frame and module of claim 1, wherein said circuit component of said amplifier module further includes a power on indicator, said power on indicator including an LED positioned on said front face.

7. The chassis frame and module of claim 1, wherein said circuit component of said amplifier module further includes a gain potentiometer, and said front face including an adjustment access point to adjust said gain potentiometer.

8. The chassis frame and module of claim 1, further comprising a transformer module for holding the transformer, the transformer module having a housing with a front face, a rear face, opposite sidewalls and end walls, each of the end walls having a projecting flange, each projecting flange received in one of the pairs of aligned grooves of the walls of the chassis frame.

9. The chassis frame and module of claim 1, wherein the pair of spaced apart walls is a first pair, and wherein the

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chassis frame includes a second pair of spaced apart walls spaced apart a distance substantially equal to the first pair, each wall of the second pair including a flange receiving groove for receiving an additional radio frequency module

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configured and arranged with a housing like the housing of the amplifier module.

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